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The Dollar and Cents Return from Liming

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THE DOLLAR AND CENTS RETURN FROM LIMING

1. Each ton of limestone used on Indiana acid soil experiment fields in livestock type cropping systems has produced average increased crops worth $19.00

   These trials have been conducted on 12 experiment fields on various soil types over periods ranging from 6 to 20 years. Basis: average increases per ton of limestone, 5 bushels of corn @ $1.00, 2 bushels soybeans and 2½ bushels wheat @ $2.00 and ¼ ton mixed hay @ $20.00. Mixed seedings of clovers, lespedeza and timothy were used.

2. Each ton of limestone used in a straight grain farming rotation on the Soils & Crops Farm has produced average increased crops worth $25.00. Basis: 16 bushels corn @ $1.00 and 18 bushels oats @ 50¢ for each ton of limestone used.

   These are 7 year average increases for plowing under sweet clover for corn the next spring after seeding in oats compared to yields where sweet clover is not used. Without liming, sweet clover will not grow on this farm.

   Present cost of liming is about $3.00 per ton spread on the land.

3. Reliming, based on soil tests, to hold the pH at 6.5 or above is profitable. Returns from this practice have been measured on the acid silt loam soil of the Jennings County Experiment Field.

Jennings Lime Experiment

Amount Lstone Used per Acre	pH after 20 years	6 year average yields, 21st to 26th year		
		Corn	Wheat	Hay
3 tons	5.1	63 bu.	22 bu.	1.6 tons
3 tons plus 2 tons	6.1	72 bu.	25 bu.	1.8 tons
12 tons	7.0	74 bu.	28 bu.	2 tons

4. Ohio experiments indicate similar results where deep rooted legumes have been used in cropping systems with corn and wheat. Maintaining the pit at 6.5 to 7.0 has produced 30 percent more feed units per acre on silt loam soil over a nine year period than a pH of 5.5 with the same fertilization. (pH of 7.0 is neutral, 5.5 is medium acid.)

5. Lime is used up on crop land at the rate of a ton each 5 to 7 years after land has been limed to the pH 6.5 level (almost neutral)

6. Lime and fertilizer on acid soils produce much better returns over a period of years than lime alone.

Examples:

a. Jennings County Field

Annual returns per acre over prorated treatment cost

Lime only		Lime and Fertilizer	
1st 9 years	Next 11 yrs.	1st. 9 yrs.	Next 11 yrs.
$4.35	$2.93	$7.85	$10.81

b. Soils & Crop Farm-Sweet clover intercrop on limed light colored acid soil produced fair corn and oats increases with very light fertilization for about 10 years. After raising the fertilization rate, yield increases have averaged 22 bushels on corn and 24 bushels on oats for the 7 years 1940 to 1946.

c. Illinois heavy soil experiment fields - On the Ewing field, lime, phosphate and sweet clover intercrop produced good crop increases for several years. Then the increases fell off until they were very small. Where potash was used in addition to the lime and phosphate it produced a corn increase of 10 bushels per acre after 7 years of cropping. After 14 years, the full combination of treatments produced a four year average yield of 56 bushels of corn compared to 32.5 bushels without the potash.

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